

Windows 98 Tips & Tricks

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Fine-Tuning Windows 98 System Performance Settings

As several of the Tips in this book have discussed, users are always interested in ways they can improve their system performance. Several of the tips that follow discuss ways you can use the System Properties dialog box to improve the Windows 98 file system, video display, and virtual-memory use. To perform these Tips, you will start at the System Properties dialog box Performance sheet, as shown in **Figure 11**. Within the Performance sheet, you can view how much RAM your PC contains, how much of its resources Windows 98 is currently using, as well as information about your file system, virtual memory, and disk compression, and PC cards. To display the Performance sheet, perform these steps:

1. Select the Start menu Settings option



Figure 11. The System Properties dialog box Performance sheet.

and choose Control Panel. Windows 98, in turn, will open the Control Panel window.

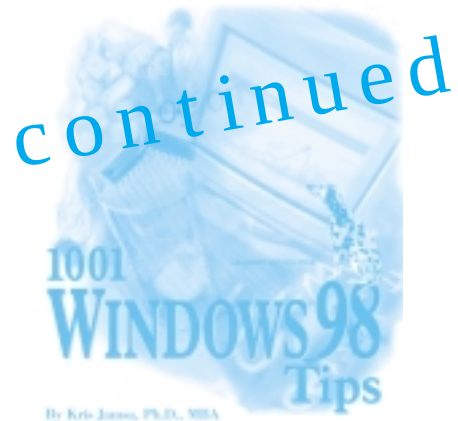
2. Within the Control Panel window, double-click your mouse on the System icon. Windows 98 will display the System Properties dialog box.
3. Within the System Properties dialog box, click your mouse on the Performance tab. Windows 98 will display the Performance sheet, previously shown in Figure 11.

Controlling a Program's MS-DOS Mode AUTOEXEC.BAT and CONFIG.SYS Settings

When you run a program using MS-DOS mode, Windows 98 will shut down and restart within MS-DOS mode to run the program. As Windows 98 starts within MS-DOS mode, it will usually use the contents of your root directory *CONFIG.SYS* and *AUTOEXEC.BAT* files. Some programs, however, may have special system requirements. In such cases, you can use the Advanced Program Settings dialog box to define the specific *CONFIG.SYS* and *AUTOEXEC.BAT* entries that Windows 98 will use for the program, by performing these steps:

1. Within the Windows Explorer, right-click your mouse on the MS-DOS program's icon. Windows 98 will display a pop-up menu.
2. Within the pop-up menu, click your mouse on the Properties option. Windows 98 will display the Properties dialog box.
3. Within the Properties dialog box, click your mouse on the Program tab. Windows 98 will display the Program sheet.
4. Within the Program sheet, click your mouse on the Advanced button. Windows 98, in turn, will display the Advanced Program Settings dialog box.
5. Within the Advanced Program Setting dialog box, click your mouse on the MS-DOS checkbox, placing a check mark within the box. Then, click your mouse on the Specify a new MS-DOS configuration radio button. Windows 98 will activate the *CONFIG.SYS* and *AUTOEXEC.BAT* fields within the dialog box.
6. Within the *CONFIG.SYS* and *AUTOEXEC.BAT* fields, type in the settings and commands that your program requires. Then, click your mouse on the OK button.
7. Within the Properties dialog box, click your mouse on the OK button.

Note: To help you customize your



CONFIG.SYS and *AUTOEXEC.BAT* file settings, you can click your mouse on the Advanced Program Settings dialog box Configuration button. Windows 98, in turn, will display the Select MS-DOS Configuration Options dialog box, within which you can select the types of operations you want MS-DOS to perform. Windows 98, in turn, will place the entries it requires within the *CONFIG.SYS* and *AUTOEXEC.BAT* fields.

Controlling Shortcut Keys for an MS-DOS-Based Program

Windows 98 defines shortcut keys that help you perform a variety of common operations. For example, if you press the CTRL-ESC keyboard combination, Windows 98 will display the Start menu. Likewise, if you press the ALT-TAB combination, Windows 98 will display a small pop-up box within which you can select the program you want to make active.

When you run an MS-DOS-based program, there may be times when one or more of the Windows 98 shortcut keys conflict with the program's shortcut key definitions. In such cases, you can use the program's Properties dialog box Misc sheet to reserve the shortcut key for the program's use. **Table 2** defines the shortcut keys which you can reserve for the program's use.

To reserve a Windows 98 keyboard shortcut for an MS-DOS-based program's use, perform these steps:

1. Within the Explorer, right-click your mouse on the icon of the program you desire. Windows 98 will display a pop-up menu.
2. Within the pop-up menu, select the Properties option. Windows 98 will display the program's Properties dialog box.
3. Within the Properties dialog box, click

Key	Purpose
ALT-TAB	Displays a pop-up box containing the icons for programs Windows 98 is currently running within which you can select the program you desire
ALT-Esc	Toggles through the active program windows
CTRL-Esc	Displays the Start menu
PrtSc	Copies the current screen contents to the Clipboard
ALT-PrtSc	Copies the current window contents to the Clipboard
ALT-ENTER	Toggles a program's display between a window and full screen
ALT-SPACEBAR	Displays a program's Control menu

Table 2. The shortcut key combinations you can reserve for an MS-DOS program's use.

your mouse on the Misc tab. Windows 98, in turn, will display the Misc sheet.

4. Within the Misc sheet's Windows shortcut keys field, remove the check mark from each shortcut key you want to reserve for the program's exclusive use.
5. Within the Properties dialog box, click your mouse on the OK button to put your changes into effect.

Use Double Quotes When You Reference Long Filenames from the Command Line

Windows 98 supports long filenames, up to 255 characters, that let you assign meaningful names to the documents you store within files on your disk. When you create files within Windows 98, you should take advantage of long filenames to assign meaningful names to your files that accurately describe the file's contents. Provided you only use Windows 98 or Windows 98-based programs, you will not experience problems by using long filenames. However, if you work from the command prompt, you can only refer to files using an eight-character filename and a three-character extension (users refer to this filename format as the 8.3 format). Should you need to work with long filenames from the MS-DOS command-line prompt, simply enclose the long filenames in double-quote marks, as shown in following commands:

```
C:\WINDOWS> DIR "This is a long Filename.DOC" <ENTER>
C:\WINDOWS> COPY C:\"Long Directory Path\Some Filename.DOC" A: <ENTER>
```

Viewing Your System's Direct-Memory Access (DMA) Devices

In computer systems that existed many years ago, the only way a device could transfer information into your computer's random-access memory (RAM) was for the device to send the information to the CPU, which in turn, transferred the information into RAM. Assume, for example, your program read 4,096 bytes of information from a file. Your disk drive would read the information and then transfer the information to the CPU which, would then transfer the information into RAM. Because your CPU was busy transferring information from the drive into RAM, it was not running other programs—which slowed down your system performance. As a solution, computer designers created direct-memory access (DMA) chips that a device, such as a disk drive, could use to transfer memory into RAM without having to bother the CPU. When you install a device that uses DMA into your system, you must specify the channels that the device can use to transfer its data. Using the System Information utility, you can view your system's current DMA settings, as shown in **Figure 12**.

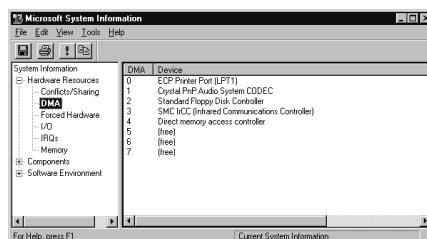


Figure 12 Using the System Information utility to view your system's DMA settings.

To display your system's direct-memory access settings, perform these steps:

1. Click your mouse on the Start menu Programs option and choose Accessories. Windows 98, in turn, will display the Accessories submenu.
2. Within the Accessories submenu, click your mouse on the System Tools option and choose System Information. Windows 98 will display the System Information window.
3. Within the System Information window's entry list, click your mouse on the plus sign that precedes the

Hardware Resources entry (to expand the entry). The System Information utility will expand its Hardware Resources list.

4. Within the System Information utility's Hardware Resources list, click your mouse on the DMA entry. The System Information utility, in turn, will display your system's direct-memory access settings.

Copying and Pasting Text to and from the Windows 98 Clipboard within an MS-DOS Window

Cut-and-paste operations may be used to perform a variety of operations, from moving or copy text within a document to moving and copying files within the Windows 98 Explorer. As it turns out, from within an MS-DOS window, you can access the Windows 98 Clipboard. To copy text from the MS-DOS window into the Clipboard, perform these steps:

1. Within the MS-DOS window's toolbar, click your mouse on the Mark button.
2. Within the MS-DOS window, aim the mouse pointer to the first character you want to mark. Next, hold down your mouse-select button and drag your mouse over the characters that you want to select. Windows 98, in turn, will highlight each character you select using reverse video.
3. Within the MS-DOS window's toolbar, click your mouse on the Copy button. Windows 98, in turn, will copy your selected text to the Clipboard.

Just as you can copy text from the MS-DOS window into the Clipboard, Windows 98 also lets you paste text from the Clipboard into the MS-DOS window at the current cursor position. To paste the Clipboard text into an MS-DOS window, perform these steps:

1. Within the MS-DOS window, position the text cursor at the location at which you want Windows 98 to insert the text from the Clipboard. You might, for example, open the EDIT text editor and position the cursor at a specific location.
2. Within the MS-DOS window's toolbar, click your mouse on the Paste button. Windows 98, in turn, will paste the Clipboard text at the current cursor location.

Note: If you cannot paste text from the Clipboard into an MS-DOS window, you will have to use the MS-DOS Prompt Properties sheet Misc page to disable the Windows 98 fast pasting feature.

Viewing Your Hardware I/O Settings

To interact with a hardware device, the CPU will sometimes place values within specific memory addresses (or retrieve values from the addresses) that the device reserves for such low-level input/output operations. Depending on the documentation that you read, you may find these memory addresses are called *ports*. In either case, just as your hardware devices require unique interrupt-request settings, your devices may require unique memory I/O memory addresses. Usually, when you install a new plug-and-play device, your new device will communicate with your existing devices to determine the I/O memory-address settings it should use. However, should you encounter a conflict, you may need to change settings on your new card (which you can usually do using the software that accompanied your card or the Windows 98 Device Manager). Fortunately, using the System Information utility program, as shown in **Figure 13**, you can view your system's current I/O memory use.

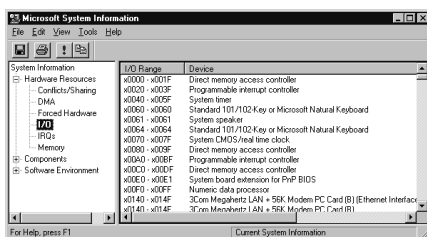


Figure 13. Using the System Information utility program to view your system's low-level I/O memory use.

To display your system's I/O memory-address settings within the System Information utility, perform these steps:

1. Click your mouse on the Start menu Programs option and choose Accessories. Windows 98, in turn, will display the Accessories submenu.
2. Within the Accessories submenu, click your mouse on the System Tools option and choose System Information. Windows 98 will display the System Information window.
3. Within the System Information window's entry list, click your mouse on the plus sign that precedes the Hardware Resources entry (to expand the entry). The System Information utility will expand its Hardware Resources list.
4. Within the System Information utility's Hardware Resources list, click your mouse on the I/O entry. The System Information utility, in turn, will display your system's I/O memory-settings.

Viewing Your System's Current Interrupt Request (IRQ) Settings

Within your system, devices such as your mouse or keyboard communicate with the central processing unit (CPU) by interrupting the CPU's current operation and telling the CPU that they need to perform a specific operation. For example, each time you move your mouse, your mouse interrupts the CPU and tells it how much it was moved. The CPU, in turn, runs software specific to the mouse (the mouse's device-driver software), which directs Windows 98 to move the mouse pointer across your screen.

When a device interrupts the CPU in this way, the CPU needs a way to know which software to run. Otherwise, you might move your mouse and the CPU could run your keyboard's software. To tell the CPU which device is interrupting it, your system assigns an interrupt-request line (a wire that connects to the CPU) to each device. If the CPU receives a signal from interrupt-request line number 7, for example, the CPU runs your printer software.

To install a new hardware device in the past (before plug-and-play hardware), users had to determine which IRQ lines their existing devices were using and then use jumpers or switches on their new hardware cards to select an unused IRQ setting. Today, plug-and-play devices resolve such issues themselves, behind the scenes. However, if you encounter a conflict (your modem may hang up each time you move your mouse, for example), you may need to change a device's IRQ setting. Fortunately, using the System Information utility, you can view your system's IRQ settings, as shown in **Figure 14**.

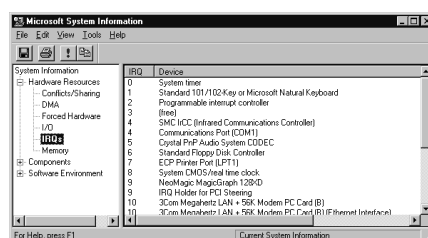


Figure 14. Using the System Information utility to view IRQ settings.

To display IRQ settings within the System Information utility, perform these steps:

1. Click your mouse on the Start menu Programs option and choose Accessories. Windows 98, in turn, will display the Accessories submenu.
2. Within the Accessories submenu, click your mouse on the System Tools option and choose System Information. Windows 98 will display the Sys-

tem Information window.

3. Within the System Information window's entry list, click your mouse on the plus sign that precedes the Hardware Resources entry (to expand the entry). The System Information utility will expand its Hardware Resources list.
4. Within the System Information utility's Hardware Resources list, click your mouse on the IRQs entry. The System Information utility, in turn, will display your system's IRQ settings.

Using the System Monitor to Locate System Bottlenecks

As quickly as PC makers release faster high-performance PCs, users seem to find new ways to consume the system's computing power. To help you get the most from your system, Windows 98 includes the System Monitor utility which you can run to monitor your system's disk, memory, and network operations. When you use the System Monitor, you can select various graphs that help view your system use. **Figure 15**, for example, shows System Monitor graphs

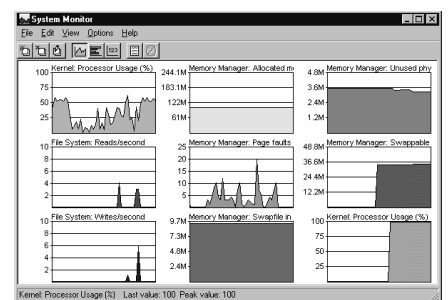


Figure 15. Using the System Monitor to chart system performance

for a variety of events.

In general, the System Monitor is not a tool for fine-tuning a system that currently runs well. Instead, you should use System Monitor to locate your system bottlenecks. After you run System Monitor a few times, you will begin to better understand your system's normal performance, which will make it easier for you to identify bottlenecks as they occur. To run the System Monitor, perform these steps:

1. Click your mouse on the Start menu Programs option and choose Accessories. Windows 98, in turn, will display the Accessories submenu.
2. Within the Accessories submenu, click your mouse on the System Tools option and choose System Monitor. Windows 98 will open the System Monitor window.

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